WHAT IS CLAIMED IS:

1. An excimer laser comprising:

a chamber for containing laser gases;

a pair of electrodes for energizing said gases in a region between said electrodes so as to produce light emission from said gases;

an optical resonant cavity comprising a plurality of mirrors that produce a laser beam from said light emitted from said gases, said laser beam propagating in said chamber;

a window on said chamber for egress of said laser beam from said chamber;

a fan for circulating said laser gases in said chamber; and

a baffle comprising an elongated hollow member within said chamber proximal to said window, said elongate hollow member having a hollow passageway for passage of said laser beam, said elongated hollow member having a proximal opening and a distal opening, said passageway extending from said proximal opening to said distal opening, said elongate hollow member disposed within said chamber such that said laser beam enters said proximal opening, propagates through said hollow passageway, and exits said distal opening and through said window,

wherein said baffle reduces deposition on and contamination of said window.

2. The excimer laser of Claim 1, wherein said distal opening of said elongate hollow member is adjacent said window.

3. The excimer laser of Claim 1, wherein said elongated hollow member is inserted in a path to said window and said hollow passageway has a conductance of less than that of said path to said window without said elongated hollow member.

4. The excimer laser of Claim 1, wherein a substantially greater flow of said laser gases flowing around said baffle than through said hollow passageway in said elongated hollow member through which said laser beam passes.

5. The excimer laser of Claim 1, wherein said proximal opening is substantially matched in size to said laser beam.

6. The excimer laser of Claim 1, wherein said hollow passageway has a cross-sectional dimension about the size of the cross-sectional dimension of the laser beam.

7. The excimer laser of Claim 1, wherein said hollow passageway has across-sectional dimension larger than the size of the cross-sectional dimension of the laser beam.

8. The excimer laser of Claim 1, wherein said elongated hollow member comprises a hollow tube.

9. The excimer laser of Claim 1, wherein said elongated member comprises a hollow tube in the form of a right circular cylinder, said tube extending longitudinally from said proximal opening to said distal opening and having a transverse circular cross-section.

10. The excimer laser of Claim 9, wherein said circular cross-section has a diameter and said laser beam has a diameter, said diameter of said circular cross-section of said tube at said proximal opening being about said diameter of said beam at said proximal opening.

11. The excimer laser of Claim 9, wherein said circular cross-section has a diameter and said laser beam has a diameter, said diameter of said circular cross-section of said tube at said proximal opening being larger than said diameter of said beam at said proximal opening.

12. The excimer laser of Claim 9, wherein said hollow tube has a length extending from said proximal opening to said distal opening and said hollow passageway has a minimum diameter, said tube length being at least two times said minimum diameter of said passageway.

13. An excimer laser comprising:

a chamber for containing laser gases;

a pair of electrodes for producing electronic discharge, said electrodes disposed with respect to each other in said chamber to form an active region therebetween, light being emitted from said active region when a voltage is applied to said electrodes;

an optical resonant cavity, said active region coinciding with at least a portion of said optical resonant cavity, said light emitted from said active region resonating within said optical resonant cavity thereby forming a laser beam;

a window on said chamber for egress of said laser beam from said chamber, said laser beam propagating through a portion of said window coincident with said laser beam;

a fan for circulating said laser gases in said chamber and through said active region; and

a baffle for restricting the flow of gas across said portion of said window coincident with said laser beam.

14. The excimer laser of Claim 13, wherein said baffle restricts the flow of said laser gases across said portion said window coincident with said laser beam to a subtantially negligible amount.

15. The excimer laser of Claim 13, wherein said baffle comprises an elongate hollow member adjacent said window.

16. The excimer laser of Claim 13, wherein said baffle comprises a plurality of contoured surfaces disposed between said fan and said active region that direct flow of gases through said active region and away from said window.

17. The excimer laser of Claim 16, wherein said plurality of contoured surfaces baffle are included on a plurality of fins disposed between said fan and said active region.

18. The excimer laser of Claim 17, wherein said plurality of fins comprise at least four fins.

19. The excimer laser of Claim 17, wherein said plurality of fins comprise at least eight fins.

20. The excimer laser of Claim 13, wherein said baffle comprises a stop disposed in front of said window, said stop having an aperture for said laser beam to pass.

21. The excimer laser of Claim 20, wherein said aperture has a size about equal to the width of said beam at said aperture such that said aperture is substantially matched in size to said laser beam cross-section.

22. The excimer laser of Claim 20, wherein said aperture has a size larger than the width of said beam at said aperture.

23. A method of extending the lifetime of an excimer laser comprising a pressure vessel for containing laser gases, an active region for producing a laser beam in said pressure vessel, said excimer laser having at least one optical surface in said pressure vessel a portion of which is coincident with said laser beam, said method comprising reducing the flow of laser gases across said portion of said optical surface coincident with said laser beam to

reduce formation of contaminants on said portion of said optical surface coincident with said laser beam.

24. The method of Claim 23, comprising reducing said flow of laser gases across said portion of said optical surface coincident with said laser beam to a negligible amount.

25. The method of Claim 23, comprising shielding said optical surface from said flow of gases.

26. An excimer laser comprising:

a pressure vessel of the type in which a halogen gas is contained;

first and second electrodes for creating a laser discharge between the electrodes;

first and second reflective elements forming a laser cavity in said pressure vessel, said laser discharge producing a laser beam in said laser cavity;

first and second optical surfaces oppositely situated in said pressure vessel, said laser beam propagating between said first and second optical surfaces;

a fan for circulating the gases; and

flow control surfaces within the pressure vessel to direct the flow of gases circulating within the pressure vessel away from portions of said optical surfaces on which the laser beam is incident, such that the rate at which particulates are deposited on such surfaces where said laser beam is incident is substantially reduced,

wherein the portions of the pressure vessel, first and second electrodes, fan, and flow control surfaces that are in contact with the halogen gas are fabricated substantially of materials that react with the halogen gas to form stable reaction products having vapor pressures of less than about 10^{-6} torr at normal operating temperatures, such that the lifetime of the excimer laser is increased.

27. The excimer laser of Claim 26, wherein at least one of said optical surfaces comprises surfaces on a window of said pressure vessel.

28. The excimer laser of Claim 27, wherein said window is rotatable.

29. The excimer laser of Claim 26, wherein at least one of said optical surfaces comprises a reflective surface on a mirror.

30. An excimer laser comprising:

a pressure vessel for containing a halogen gas;

first and second electrodes located within the pressure vessel, said first and second electrodes separated such that a voltage applied between said first and second electrodes produced a gas discharge that emits light;

first and second optical elements located at opposite ends of the pressure vessel, disposed with respect to the separation between the first and second electrodes receive said emitted light; and

first and second flow-redirecting surfaces located adjacent to the first and second optical elements, respectively, said flow-redirecting surfaces reducing the rate at which gases in the pressure vessel flow adjacent the optical component where said optical component receives said emitted light.

31. The excimer laser of Claim 30, wherein said first flow-redirecting element comprises a baffle having an aperture therein for light to propagate along a path to said optical component.

32. The excimer laser of Claim 31, wherein said optical component on which the optical component is substantially larger than the beam's cross-section.

33. The excimer laser of Claim 32, further comprising a mount for selectively moving the optical component relative to the laser beam and fixing a selected portion of the optical component in the beam's path, such that any portions of the optical component carrying undesired deposits of light-absorbing particles may be selectively moved out of the beam's path.